WHAT IS CLAIMED IS:

1.   A method of allocating addresses among a group of entities sharing a common transmission medium, the addresses identifying each respective entity in the group, the method comprising the steps of:

distributing, among the group of entities, at least one address mask;

applying, within a transmitting entity of the group, using a scrambling function, a first address mask to an address portion of data transmitted by the transmitting entity of the group via the common transmission medium; and

applying, within each receiving entity of the group, using a descrambling function, the first address mask, or a second address mask when the descrambling function differs from the scrambling function, the first or second address mask being applied to descramble the address portion of the transmitted data received by each receiving entity of the group to determine a corresponding actual address data.

2.   The method of claim 1, wherein the scrambling and descrambling functions are the same, only the first address mask is distributed among the group, and the first address mask is used to descramble the address portion of the transmitted data.

3.   The method of claim 2, wherein the scrambling and descrambling functions are both EXCLUSIVE-OR (XOR) operations.

4.   The method of claim 1, wherein the scrambling and descrambling functions are not the same, the first and second address masks are distributed among the group, and the second address mask is used to descramble the address portion of the transmitted data.

1   5.   The method of claim 1, wherein the group of entities comprise a
2   wireless network.

1   6.   The method of claim 5, wherein the wireless network is an ad-hoc
2   wireless network, wherein the common transmission medium includes at least
3   one channel established in an uncoordinated way.

1   7.   The method of claim 5, wherein the common transmission medium
2   includes a plurality of channels and dynamic channel selection is used.

1   8.   The method of claim 1, wherein the common transmission medium
2   includes at least one channel defined by a frequency hopping scheme.

1   9.   The method of claim 1, wherein at least one of the entities stores a
2   list of the actual address data, the list being organized in segments with each
3   segment implying a special feature on the entities corresponding to the actual
4   address data stored in the respective segment.

1   10.   The method of claim 9, wherein the segments include a segment
2   for entities supporting synchronous data transfer and a segment for entities not
3   supporting synchronous data transfer.

1   11.   A method of communicating between two entities sharing a
2   common transmission medium, the method comprising the steps of:
3   sharing between the two entities, at least one address mask;
4   applying, in a transmitting one of the two entities, using a scrambling
5   function, a first address mask to an actual address data in an address portion of
6   a data transmission to scramble the actual address data prior to transmission by
7   the transmitting entity via the common transmission medium; and

8   applying, within a receiving one of the two entities, using a descrambling

9   function, the first address mask, or a second address mask when the

10   descrambling function differs from the scrambling function, to the address portion

11   of data received by the receiving entity to determine the corresponding actual

12   address data.

1   12.   The method of claim 11, wherein the scrambling and descrambling

2   functions are the same, only the first address mask is shared between the two

3   entities, and the first address mask is used to descramble the address portion of

4   the transmitted data.

1   13.   The method of claim 12, wherein the scrambling and descrambling

2   functions are both EXCLUSIVE-OR (XOR) operations.

1   14.   The method of claim 11, wherein the scrambling and descrambling

2   functions are not the same, the first and second address masks are shared

3   between the two entities, and the second address mask is used to descramble

4   the address portion of the transmitted data.

1   15.   The method of claim 11, wherein the two entities comprise a

2   wireless network.

1   16.   The method of claim 15, wherein the wireless network is an ad-hoc

2   wireless network, wherein the common transmission medium includes at least

3   one channel established in an uncoordinated way.

1   17.   The method of claim 15, wherein the common transmission

2   medium includes a plurality of channels and dynamic channel selection is used.

1   18.   The method of claim 11, wherein the common transmission

2   medium includes at least one channel defined by a frequency hopping scheme.

1   19.   The method of claim 11, wherein at least one of the two entities

2   stores a list of the actual address data, the list being organized in segments with

3   each segment implying a special feature on the entities corresponding to the

4   actual address data stored in the respective segment.

20.   The method of claim 19, wherein the segments include a segment

for entities supporting synchronous data transfer and a segment for entities not

supporting synchronous data transfer.

1   21.   A computer program product for communicating between at least

2   two entities sharing a common transmission medium, the computer program

3   product comprising:

4   a computer-readable storage medium having computer-readable program

5   code means embodied in said medium, said computer-readable program code

6   means including:

7   logic that shares between the entities, at least one address mask;

8   logic that applies, in a transmitting one of the entities, using a

9   scrambling function, a first address mask to an actual address data in an address

10   portion of a data transmission to scramble the actual address data prior to

11   transmission by the transmitting entity via the common transmission medium;

12   and

13   logic that applies, within a receiving one of the entities, using a

14   descrambling function, the first address mask, or a second address mask when

15   the descrambling function differs from the scrambling function, to the address

16   portion of data received by the receiving entity to determine the corresponding

17   actual address data.

1   22.   The computer program product of claim 21, wherein the scrambling

2   and descrambling functions are the same, only the first address mask is shared

3   between the at least two entities, and the first address mask is used to

4   descramble the address portion of the transmitted data.

1   23.   The computer program product of claim 22, wherein the scrambling

2   and descrambling functions are both EXCLUSIVE-OR (XOR) operations.

1   24.   The computer program product of claim 21, wherein the scrambling

2   and descrambling functions are not the same, the first and second address

3   masks are shared between the at least two entities, and the second address

4   mask is used to descramble the address portion of the transmitted data.